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Klaus P. Stoffel, Esq.
Cohen, Pontani, Lieberman & Pavane
Suite 1210
551 Fifth Avenue
New York, NY 10176

EXAMINER	
RIDLEY, BASIA ANNA	

ART UNIT	PAPER NUMBER
1764	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/726,826	Applicant(s) SCHINGNITZ ET AL.	
	Examiner Basia Ridley	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13,17 and 18* is/are pending in the application.

4a) Of the above claim(s) *4-6 and 9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7,8,10-13,17 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 November 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, Species B in Paper No. 6 is acknowledged. Claims 4-6 and 9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species, there being no allowable generic or linking claim.

Drawings

2. The drawing(s) is/are objected to because the Figure numbers are not consistent with the description in the specification. The specification (P9/L3-5) describes Fig. 1 as "a longitudinal section through the reactor vessel with a portion of the slag or brickwork lining being broken away" and Fig. 2 as "a transverse section view (...)". In the drawings Fig. 1 shows a transverse section while Fig. 2 shows a longitudinal section. The figure numbers in the drawing should be changed to be consistent with the description. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. Applicant is reminded that no new matter shall be added.

3. The drawings are objected to because Fig. 1-2 contain foreign words and/or characters (e.g. "Figur" or "Einzelheit"). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. Applicant is reminded that no new matter shall be added.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "A" (Fig. 2). A proposed

drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Fig. 3 does not include "pins or anchors" 11 and Fig. 4 does not include "pins or anchors" 12. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: e.g. 20, 24, 26, 28, 30, 36 (P10-13). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim(s) 1-3, 7-8, 12-13 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheppard et al. (USP 4,685,404).

Regarding claim(s) 1, Sheppard et al., in Fig. 6, discloses a gasification reactor vessel comprising:

- a pressure shell (88, 102) having an elongated encircling body wall and shell ends at each of opposite ends of said body wall (Fig. 3);

- a plurality of cooling conduits (90) extending circularly around an inner side of said body wall, said conduits being fixedly connected to said inner side, interior spaces of said cooling conduits being in communication with said body wall inner side (Fig. 6);

- a layer of thermally protective material (92) contactingly covering said cooling conduits (90); and

- anchor ties (100) fixedly connected to said cooling conduits (90) and embedded in said protective material covering (92).

While the reference does not explicitly disclose a fluid supply conduit and a fluid discharge conduit, the presence of said conduits is inherent in the reactor of Sheppard et al.

Regarding claim(s) 2-3, 7-8 and 12-13, Sheppard et al., in Fig. 6, discloses all of the claim limitations as set forth above. Additionally the reference discloses the reactor vessel wherein:

- said thermally protective material is a refractory material (C16/L26-28);

- each cooling conduit comprises a pair of spaced webs fixedly connected at common ends of each to said body wall inner side, and a bridging piece joining opposite ends of said webs (Fig. 6);

- the cooling conduits extend around the inner side of said body wall with the webs of each fixedly connected to a web of adjacent cooling conduits (Fig. 3);

- said cooling conduits are fixedly connected to the body wall inner side with a gas tight and water tight connections (Fig. 3, C16/:64-C17/L25);

- cross-section of said cooling conduits is one of an oval, a semicircle and a polygon (Fig. 6); and

- the vessel further comprising a caked slag layer covering said thermally protective material layer (C16/L21-C17/L25).

Regarding claim(s) 17-18, Sheppard et al., in Fig. 6, discloses a gasification reactor vessel comprising:

- a generally cylindrical pressure shell (88, 102);
- a plurality of channel members (90) extending lengthwise of said pressure shell in a circular array around an inner side of said pressure shell, said channel members being fixedly connected to said inner side to provide a corresponding plurality of closed coolant flow courses (86);
- an encircling protective layer of refractory material (92) covering said channel members (90) and being in heat conductive contact with said channel members;
- an encircling layer of at least one of a caked slag and a refractory covering said protective layer (C16/L21-C17/L25);
- wherein the channel members are connected to said inner side of said pressure shell with gastight and watertight welded connections (Fig. 6).

Instant claim(s) 1-3, 7-8, 12-13 and 17-18 structurally read(s) on gasification reactor vessel of Sheppard et al.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claim(s) 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheppard et al. (USP 4,685,404), as applied to claim 1 above, and further in view of Wood (USP 4,129,422).

Regarding claim(s) 10-11, Sheppard et al., in Fig. 6, discloses all of the claim limitations as set forth above, but the reference does not explicitly disclose the vessel further comprising a refractory lining comprising a brickwork lining covering said refractory layer.

Wood teaches that it was know in the art at the time of the invention to add a refractory brickwork lining to cover the material layer having cooling passages in a gasification reactor vessel for the purpose of protecting the material layer from erosion by the slag (Fig. 3 and C1/L30-C2/L40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to line the layer of thermally protective material of the gasification reactor vessel of Sheppard et al. with refractory brickwork lining, as taught by Wood, for the purpose of protecting the thermally protective material from erosion by molten slag.

11. Claim(s) 1-3, 7-8, 12-13 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gudymov et al. (DE 35 23 610) in view of Carlson (USP 1,921,806).

Regarding claim(s) 1-3, 7-8 and 12-13, Gudymov et al. discloses a gasification reactor vessel comprising:

- a pressure shell (2, 4, 9) having an elongated encircling body wall and shell ends at each of opposite ends of said body wall (Fig. 1);
- at least one cooling conduit extending circularly around an inner side of said body wall (1, 3, 5), said conduit being fixedly connected to said inner side, interior space of said cooling conduit being in communication with said body wall inner side (Fig. 1);

- a fluid supply conduit (11) communicating with common ends of said cooling conduit for supplying a coolant to said cooling conduit;
- a fluid discharge conduit (12) communicating with opposite ends of cooling conduit for outletting heated coolant from said cooling conduit;
- a layer of thermally protective material (19) contactingly covering said cooling conduit; and
- anchor ties (7, 8) fixedly connected to said cooling conduit and embedded in said protective material covering (19);
- wherein said thermally protective material is a refractory material (page 11);
- further comprising a caked slag layer covering said thermally protective material layer (page 11).

While Gudymov et al. discloses at least one cooling conduit, the reference does not explicitly disclose a plurality of conduits wherein each cooling conduit comprises a pair of spaced webs fixedly connected at common ends of each to said body wall inner side, and a bridging piece joining opposite ends of said webs.

Carlson teaches a reactor vessel wherein a single cooling conduit, similar to the conduit of Gudymov et al. is replaced by a plurality of cooling conduits wherein each cooling conduit comprises a pair of spaced webs fixedly connected at common ends of each to said body wall inner side, and a bridging piece joining opposite ends of said webs (Fig. 1 and P1/L39-90) and wherein:

- the cooling conduits extend around the a side of a body wall with the webs of each fixedly connected to a web of adjacent cooling conduits (Fig. 4);

- said cooling conduits are fixedly connected to the body wall side with a gas tight and water tight connections (Fig. 4 and P1/L60-64); and

- cross-section of said cooling conduits is one of an oval, a semicircle and a polygon (Fig. 4 and P1/L56-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the cooling conduit of Gudymov et al. with a plurality of cooling conduits, as taught by Carlson for the purpose of lowering the capital costs of the reactor vessel.

Regarding claim(s) 17-18, Gudymov et al. discloses a gasification reactor vessel comprising:

- a cylindrical pressure shell (2, 4, 9);

- at least one channel member (1, 3, 5) extending lengthwise of said pressure shell (2, 4, 9) in a circular array around an inner side of said pressure shell, said channel member being fixedly connected to said inner side to provide a corresponding at least one closed coolant flow course (Fig. 1);

- an encircling protective layer of refractory (19) material covering said channel member and being in heat conductive contact with said channel member (Fig. 1);

- an encircling layer of at least one of a caked slag and a refractory covering said protective layer (page 11).

While Gudymov et al. discloses at least one cooling channel member, the reference does not explicitly disclose a plurality of said channel members wherein the channel members are connected to said inner side of said pressure shell with gastight and watertight welded connections.

Carlson teaches a reactor vessel wherein a single cooling channel member, similar to the channel member of Gudymov et al. is replaced by a plurality of cooling channel members wherein the channel members are connected to said inner side of said pressure shell with gastight and watertight welded connections (Fig. 1 and P1/L39-90).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the cooling conduit of Gudymov et al. with a plurality of cooling conduits, as taught by Carlson for the purpose of lowering the capital costs of the reactor vessel.

12. Claim(s) 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gudymov et al. (DE 35 23 610) in view of Carlson (USP 1,921,806), as applied to claim 1 above, and further in view of Wood (USP 4,129,422).

Regarding claim(s) 10-11, Gudymov et al. in view of Carlson, disclose all of the claim limitations as set forth above, but the references do not explicitly disclose the vessel further comprising a refractory lining comprising a brickwork lining covering said refractory layer.

Wood teaches that it was know in the art at the time of the invention to add a refractory brickwork lining to cover the material layer having cooling passages in a gasification reactor vessel for the purpose of protecting the material layer from erosion by the slag (Fig. 3 and C1/L30-C2/L40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to line the layer of thermally protective material of the gasification reactor vessel of Gudymov et al. in view of Carlson with refractory brickwork lining, as taught by Wood, for the purpose of protecting the thermally protective material from erosion by molten slag.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Conclusion

14. In view of the foregoing, none of the claims are allowed.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Basia Ridley, whose telephone number is (703) 305-5418. The examiner can normally be reached on Monday through Thursday, from 9:00 AM to 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on (703) 308-6824.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Basia Ridley
Examiner
Art Unit 1764

JERRY D. JOHNSON
PRIMARY EXAMINER
GROUP 1100

BR
October 20, 2003